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PATENT COOPERATION TREATY  
UNITED STATES RECEIVING OFFICEApplicant:  
**Ben Jones et al.**International Application No:  
**PCT/US00/040038**International Filing Date:  
**16 March 2000**Earliest Priority Date:  
**17 March 1999**Title: **SENSOR**§  
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§Attorney Docket: **IO-1009US**#13/A  
1 REC  
JTS**PRELIMINARY AMENDMENT**

With the transmission of the filing of the referenced application under 35 USC 3.71, Applicants submit the following Preliminary Amendment.

**In the Claims**

Please delete the originally filed claims 1-27.

Please add the following new claims and proceed with the national examination procedures under 35 USC 3.71:

- PWT 1-26*
- 1 *28* An apparatus for recording environmental data measurements, comprising:  
2 a sensor for detecting environmental data;  
3 a controller for controlling the operation of the sensor, the operation of the sensor  
4 including a plurality of operation modes automatically selected by the controller.

- 1 *29* The apparatus of claim 1, wherein the controller further comprises:  
2 a front-end circuit coupled to the sensor;  
3 a loop filter coupled to the front-end circuit;  
4 a multiphase clock generator coupled to the front end circuit and the loop filter;  
5 a startup sequencer coupled to the loop filter and the multiphase clock generator;  
6 a sensor simulator for simulating the performance of the sensor coupled to the startup  
7 sequencer, the multiphase clock generator, and the front-end circuit; and  
8 an overload detection device coupled to the loop filter and the startup sequencer.

- 1 *30* The apparatus of claim 1, wherein the controller comprises:  
2 a front-end circuit for providing electrostatic forces and position sensing for a  
3 measurement mass in the sensor, the front-end circuit including:  
4 a plurality of switches for controlling the operation of the sensor; and